

**STATE FOREST LAND
ENVIRONMENTAL CHECKLIST**

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at <http://www.dnr.wa.gov> under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

Timber Sale Name: **Saint Stephen**

Agreement #: **30-076606**

2. Name of applicant: **Washington State Department of Natural Resources**

3. Address and phone number of applicant and contact person:

Northwest Region

Contact Person: Candace Johnson

919 North Township Street

Telephone: (360) 856-3500

Sedro-Woolley, WA 98284

4. Date checklist prepared: **August 5, 2004**

5. Agency requesting checklist: **Washington State Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

a. Auction Date: **02/28/2005**

b. Planned contract end date (but may be extended): **09/30/2006**

c. Phasing: **Does not apply**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Timber Sale

a. Site preparation: **Logging slash from landings generated on this proposal will be piled and potentially burned, allowing adequate planting spots. Unit may be aerially sprayed with chemicals for site preparation.**

b. Regeneration Method: **To be hand planted at 360 stems per acre with Douglas-fir, western redcedar, and western white pine. Tentatively scheduled for February 2007.**

c. Vegetation Management: **To be surveyed 3-5 years following planting to assess need for hand cutting or chemical treatment.**

d. Thinning: **To be assessed 12-15 years following planting to verify need for PCT.**

Roads: **Roads remaining active will provide access for future land management activities, including rock haul, and will have routine annual maintenance, which may include ditch and culvert cleanout and road grading as needed. Existing roads along the haul route will follow the approved RMAP for 280010L.**

Rock Pits and/or Sale: **Three rock sources may be used; two within the sale area (Saint Stephen and Upper Saint pits), and the S-1100 pit, located in Township 39 North, Range 05 East, Section 01. Saint Stephen Pit and Upper Saint Pit are planned to be**

developed within the sale boundary. These sources will provide rock for construction of roads associated with this proposal and future land management activities within a contiguous area of state ownership. No rock is planned for sale from these pits.

Other: Shrubs, plants, etc. may be removed from road right-of-way prior to construction. Firewood cutting may be permitted following harvest.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒ 303 (d) – listed water body in WAU: **Middle Fork Nooksack River** ☒ temp ☐ sediment ☐ completed TMDL (total maximum daily load): see <http://www.ecy.wa.gov/programs/wq/wqhome.html>, report also available at the Northwest region office. This segment is located approximately 4 miles downstream. This proposal is not expected to impact this stream segment. Additionally, a second stream segment is located approximately 6 miles northwest of the proposal on a tributary to the Middle Fork Nooksack River. This proposal will not impact this stream segment.

☐ Landscape plan:

☐ Watershed analysis:

☒ Interdisciplinary team (ID Team) report: **Water type modification approval as a result of ID team dated August 4, 2004**

☒ Road design plan: **Available at the Northwest Region Office, dated July 21, 2004**

☐ Wildlife report:

☐ Geotechnical report:

☒ Other specialist report(s): **NW Region Soils Specialist Memo dated August 9, 2004, available at the Northwest Region office.**

☐ Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):

☒ Rock pit plan: **Available at the Northwest Region Office**

☒ Other: **Forest Resource Plan and Environmental Impact Statement, dated July 1992; Final Habitat Conservation Plan and Environmental Impact Statement, dated September 1997; State Soil Survey, dated 1992; available at the Northwest region office.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. **None**

10. List any government approvals or permits that will be needed for your proposal, if known.

☐ HPA ☐ Burning permit ☐ Shoreline permit ☐ Incidental take permit ☒ FPA # _____ ☐ Other:

11. Give a brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. Complete proposal description:

An area of approximately 125 acres was considered for this proposed activity. It is located in sections 17, 18, 19 and 20 of Township 38 North, Range 06 East, and Section 1 of Township 39 North, Range 05 East, W.M., approximately 7.8 miles southeast of Deming, WA. The proposal is surrounded by state ownership. The sale involves a regeneration harvest of Douglas-fir and western hemlock approximately 70 years of age. Field reconnaissance showed several streams and wetlands incorrectly located and typed on the state GIS database maps and attached SEPA maps dated August 11, 2004. These waters have all been traversed and typed according to the Western Washington Water Typing rules, WAC 222-16-031. The type 3 water and its buffer have been excluded from the timber harvest sale area. The Riparian Management Zone (RMZ) and topographical breaks defined the timber sale unit boundaries. Slopes in the timber sale area range from 5 to 100%.

Net harvest area: 98.4 acres

Estimated volume: 3,423 mbf

Type of harvest: Regeneration harvest

Logging System: Ground-based, cable harvesting systems

RMZ buffer area: 12.2 acres

Green Tree Clump Area: 20 clumps = 6.4 acres

Bald Exclusion: Approximately 2 acres

New Road Construction: 8,321 feet

Abandonment: None

The difference in gross proposal area (125 acres) vs. net harvest area (98.4 acres) is due to changes made to the boundary location during sale layout in addition to areas excluded for leave trees, unstable slopes and RMZ's.

b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

The proposed sale is comprised of a single regeneration harvest unit totaling approximately 98.4 acres. This unit will be harvested using cable-yarding systems on slopes greater than 25% and cable or ground-based harvest yarding systems on slopes less than 25%. The proposed harvest area is located on a west- southwest aspect. It consists of a stand of natural second growth timber, primarily Douglas-fir, western hemlock, and western redcedar, with minor components of red alder, cottonwood, bigleaf maple, and vine maple, with an origin date of approximately 1934. The average diameter of the Douglas-fir in this stand is 18-24 dbh (diameter at breast height) with an average height of 130 feet, the average for western hemlock is 16-20 dbh and 110 feet, and 8-14 dbh and 100 feet for western redcedar. The stand has a volume of approximately 40-45 mbf/acre. Snags, cedar stumps, and down woody debris are attributes of this stand that will not be removed from the site. There is a sparse understory of western redcedar, cottonwood, red alder, vine maple, salmonberry, moss, fern, ocean spray, Oregon grape, salal, huckleberry, devils club, and numerous types of mushrooms and fungi. This information is taken from the DNR Forest Resource Inventory System and onsite data collection during sale layout.

Objectives for the sale include generating revenue for the State Common School Indemnity Trust (03), maintaining the biological and structural diversity and productivity of the site, protecting water quality and fish & wildlife habitat, and minimizing the visual impact of the early seral forest growth stage.

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		8,321	3.1	0
Reconstruction		0		N/A
Abandonment		0	N/A	N/A
Bridge Install/Replace	0			N/A
Culvert Install/Replace (fish)	0			N/A
Culvert Install/Replace (no fish)	27			

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. (See timber sale map. See also color landscape/WAU map on the DNR website <http://www.dnr.wa.gov> under “SEPA Center.”)
- a. Legal description: The proposed sale area is located within parts of Sections 17, 18, 19 and 20 of Township 38 North, Range 06 East W.M. The haul route extends into Section 11, 12, & 13 of Township 38 North, Range 06 East, W.M. Three rock sources may be used; two within the sale area (Saint Stephen and Upper Saint pits), and the S-1100 pit, located in Township 39 North, Range 05 East, Section 01.
- b. Distance and direction from nearest town (include road names): The sale area is located approximately 7.8 miles southeast from the town of Deming. Traveling east on Highway 542, approximately 2.8 miles from Deming turn south onto Mosquito Lake Road and travel 5.6 miles. Turn east onto the Forest Service 38 road and travel 2.8 miles to the sale area.
- c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website <http://www.dnr.wa.gov> under “ SEPA Center.”)

WAU Name	WAU Acres	Proposal Acres
Porter Canyon	18,863	98
Sub-basin 04	1,750	98

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website <http://www.dnr.wa.gov> under “SEPA Center” for a broader landscape perspective.)

WAU Name	Total WAU Acres	DNR Forested Acres in WAU	Percent DNR Managed Forestland In WAU	DNR Managed Forestland > 25 Years Old*	Percent DNR Forestland > 25 Years Old	Private Managed Acres in WAU	Percent Private Managed Land	Proposal acres
Porter Canyon	18,863	6,398	34%	4,686	73%	12,465	66%	98

*DNR forested acreage that will be hydrologically mature following current proposal harvest.

Within the past seven years in the Porter Canyon WAU, approximately 479 acres of land has been harvested from 10 even-aged regeneration sales on DNR managed land. These sales include (all or portions of): Malcolm View, Jorgensen, Aqua Marine, Facemask, Dike Molehill, Guava, Beyond Porter, Aqua Lung, Skeeter View, and Thousand Dishes. There is one regeneration harvest currently being harvested on state owned lands in the Porter Canyon WAU (Liberty timber sale, 45 acres). Additionally, approximately 15 acres of a sold 248-acre thinning harvest, Resurrection Small Wood Thinning (SWT), is located in the Porter Canyon WAU. However, activities have not yet begun in this unit. This information was taken from past Forest Practices Applications. Environmental impacts due to harvest activities of past sales have been mitigated on a site-by-site basis according to the guidelines set out in the Forest Practice Rules and Habitat Conservation Plan (HCP). Therefore, current and future management activities should not adversely contribute to cumulative environmental impacts. All of the even-aged harvest areas have been replanted or are planned to be replanted with Douglas-fir and western redcedar seedlings. Private landowners have completed several regeneration harvests in the WAU in accordance with the Forest Practices guidelines in the past seven years, totaling approximately 2,500 acres. Private landowners have used a rotation age of 40-50 years of age. Future activities on private land are unknown. This data is based on the information taken from the attached SEPA maps dated August 11, 2004 and additional information available from the State GIS database as of August 2, 2004.

Environmental issues have been mitigated in the current proposal to assure this activity and future activities adjacent to this proposal will not contribute to an increased chance of adverse environmental impact. The type 3 stream has a 177-foot Riparian Management Zone (RMZ) buffering it. This will reduce potential for sediment delivery to the streams, preserving water quality, and provide a long-term supply of shade and down woody debris to the stream. The type 5 streams within the sale will have a 30-foot equipment limitation zone on each side of the channels. Ground-based harvesting, road construction, and hauling of forest products may be restricted to the dry season. A total of 867 leave trees have been retained to preserve structural diversity for wildlife habitat. Twenty leave tree clumps, comprising approximately 6.4 acres and containing 659 of the 867 leave trees, have been spatially distributed throughout the sale area. These patches average 0.3 acre in size and have an average of 35 trees in each patch. The remaining 208 leave trees were scattered throughout the unit. A bald in the northeast portion of the sale has been excluded from the harvest area. RMZ’s and wildlife trees will serve to maintain diversity, reduce soil erosion, and provide current and recruit future wildlife habitat. The site will be replanted within two years of harvest with Douglas-fir, western white pine, and western redcedar. The current activity complies with the final HCP, Implementation Agreement, Incidental Take Permits, and Forest Resource Plan.

Future activities within this WAU in the next fiscal year include silvicultural activities. These activities will continue to follow the Forest Practices Rules, Forest Resource Plan, Implementation Agreement, Incidental Take Permits, and HCP. This will ensure that all aspects of the environment are adequately protected and preserved and serve to minimize the chance of adverse cumulative environmental impacts.

B. ENVIRONMENTAL ELEMENTS
1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☐Hilly, ☒Steep Slopes, ☐Mountainous, ☐Other:

- 1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).
The Porter Canyon WAU is mountainous; it consists of valley bottom and steep-sided mountains ranging in elevation from 600 to 4,000 feet. The Van Zandt Dike is the western boundary, the Clearwater drainage is the eastern boundary, the North Fork Nooksack River is the northern boundary, and the height of land between the Middle Fork Nooksack River and Hutchinson Creek is the southern boundary. Landforms are of glacial, glacial fluvial, and fluvial origin. Most of the WAU is forested with scattered parcels of cleared private land. The major timber types are second growth conifer/hardwood (Douglas-fir, western redcedar, western hemlock, bigleaf maple, and red alder). There are many young Douglas-fir stands throughout the WAU. The Middle Fork Nooksack River is the major water body found in the central portion of the WAU. The climate is typical of the foothills of the western Cascades.
- 2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).
The unit has virtually all the elements listed in the previous section. This information is based on local knowledge, aerial photos, Porter Canyon WAU map (dated July 15, 2004), and field verification.

b. What is the steepest slope on the site (approximate percent slope)? 110% on less than 15% of the sale area.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture	% Slope	Acres	Mass Wasting Potential	Erosion Potential
0694	Blethen	15-30%	47	Insignificant	Medium
0140	Andic Xerochrepts	50-90%	48	High	High
5603	Oakes	30-60%	3	Medium	Medium

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

- 1) Surface indications: Rock outcrops and very steep rocky slopes occur in the southeast corner and in a band between roughly 1,600 and 2,100 feet elevation in the east side of the sale. These very steep, rocky slopes are generally stable; evidence of instability since timber harvesting and fires roughly 70 years ago is limited to scattered, small, shallow debris slides on slopes of 80+%. These slides appear to have been triggered by tumbling rocks or uprooted (wind-thrown) trees. In all cases the failed debris spread laterally on the slope and stopped within tens of feet of its point of origin. The region soils specialist verified this information in the field.
- 2) Is there evidence of natural slope failures in the sub-basin(s)?
☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:
Natural failures can be found in concave, convergent topography formed by large, ancient slope failures. Minor stream bank failures along inner gorges and small shallow-rapid slides are also common throughout the sub-basin according to aerial photo evidence.
- 3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?
☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics: There is significant evidence of mass wasting events within the Porter Canyon WAU. These are often associated with stream bank failures along the inner gorges. Small shallow-rapid slides are also common throughout the sub-basin.
- 4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?
☐No ☒Yes, describe similarities between the conditions and activities on these sites:
The unit is located on slopes of similar steepness and erosion and mast wasting processes. The steepest side slope new road construction crosses is 100%.
- 5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal. Timber harvesting will not take place on unstable slopes; these areas have been excluded from the proposed harvest area. The road location has been carefully considered to avoid impacts to streams and slopes. The three switchbacks on the north end of the timber sale were preferred to an alternative that would have crossed a quarter mile of 50-100% slopes. The switchbacks also were preferred over a route that would have crossed an inner gorge twice. Some cutbanks and fillslopes in the vicinity of the switchbacks will be armored with riprap to ensure stability. Fractured rock will be incorporated into some of the large road fills across deep swales to address the potential for water piping from under the fills. Roads on slopes greater than 50% will be constructed using full bench techniques, with material hauled to a stable, designated, location.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: 3.1 acres Approx. acreage new landings: 4 acres Fill source: Saint Stephen Pit, Upper Saint Pit, and native material

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
Erosion could result from road and landing construction during periods of heavy rainfall or as a result of yarding during periods of saturation. Additionally, erosion could result if ditches and culverts are not properly installed and maintained during and after the harvest operation. Erosion could also occur if stream banks are damaged. Road use during unfavorable weather conditions may contribute to an increased potential for surface erosion. This information was verified by field inspections to adjacent harvest units and roads next to the proposal area.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):* **Approximately 3% of the net sale area will be permanent gravel road.**
- h. Propose measures to reduce or control erosion, or other impacts to the earth, if any: *(Include protection measures for minimizing compaction or rutting.)* **All roads will be surfaced with durable rock. All ditches will be excavated along roads to collect surface runoff, which will be discharged onto stable areas of the forest floor, or natural drainages through ditch outs and cross drain culverts. Culverts will have head walls and catch basins at inlets. All freshly exposed soils associated with road construction and timber harvesting near streams will be grass seeded. The harvest schedule and recommended yarding plan will minimize erosion into streams via lead-end suspension of logs when cable yarding and ground-based yarding timing restrictions. Landings and cable yarding roads shall be located to avoid yarding logs up/down channels or deep swales within the sale. Down woody debris and stumps will not be removed, thus impeding the flow of surface water. Ground-based yarding, mechanized falling, road construction, and hauling of forest products may be restricted from November 1 to March 31. Contract and road plan provisions restrict operations during periods of unfavorable weather during any time of the year. Harvested area will be reforested with Douglas-fir, western white pine, and western redcedar seedlings within two years of the expiration of the contract.**

2. Air

- a. What types of emissions to the air would result from the proposal (i.e., dust from truck traffic, rock mining, crushing or hauling, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known. **No emissions are anticipated other than minor amounts of equipment exhaust and road dust created by truck traffic.**
- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
None
- c. Proposed measures to reduce or control emissions or other impacts to air, if any:
Dust abatement must be achieved from March 30 to November 1 on the S-1000 from MP 0.0 to MP 0.1 due to the proximity of the haul route to residences. Dust abatement will consist of the application of water or a mixture of water and lignin.

3. Water

- a. Surface:
- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map and forest practice base maps.)*
- a) *Downstream water bodies:* **Middle Fork Nooksack River**
- b) *Complete the following riparian & wetland management zone table:*
- | Wetland, Stream, Lake, Pond, or Saltwater Name (if any) | Water Type | Number (how many?) | Avg RMZ/WMZ Width in Feet (per side for streams) |
|---|------------|--------------------|--|
| Un-named stream | 3 | 1 | 177 |
| Un-named stream | 5 | 4 | none |
- Non-typed waters (waters that do not meet any of the physical criteria for Type 1-5 streams) are present within the sale area. All streams are tributary to the Middle Fork Nooksack River.**
- c) *List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers. A 177-foot RMZ buffer was placed on the single type 3 stream within the proposed sale area. No wind buffer was warranted for this stream as there is little to no evidence of windthrow in the vicinity of the stream and it flows parallel to the primary wind patterns. Landings and cable yarding roads shall be located to avoid yarding logs up/down channels or deep swales within the sale. Trees must be felled to avoid disturbance to the type 5 stream along the western boundary. Temporary log crossings that protect stream bank integrity are required for the type 5 stream along the western boundary during ground-based yarding operations. The proposed road location is located outside of the RMZ. This location avoids crossing the type 3 stream to the west of the sale. It also minimizes impact to the type 5 stream located near the intersection of the proposed road (PC-1300) with the USFS-38 road by climbing farther away from the channel than other alternatives.*
- 2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐No ☒Yes *(See RMZ/WMZ table above and timber sale map.)*
Description (include culverts): **The road climbs through three switchbacks in the north part of the sale crossing and re-crossing small channels, some of which are type 5 channels, and distinct swales. This will involve installation of culverts and construction of the road crossing.**
- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
- Culvert installations and related road construction will require approximately 500 cubic yards of fill material. Most of this will be native material from nearby excavation; the remainder will be fractured rock from the proposed Saint Stephen pit.**
- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒No ☐Yes, *description:* **No surface withdrawals or diversions are anticipated for road construction.**

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒ **No** ☐ *Yes, describe location:*
- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒ **No** ☐ *Yes, type and volume:*
A clause in the timber sale contract prohibits operators from discharging waste materials into surface waters.
- 7) *Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?*
There are slopes that may be susceptible to surface erosion within the sub-basin. The terrain within the proposal does not contain these features. Due to seasonal flow of streams, and seasonal operation period, it is unlikely that eroded material will enter surface waters. Information was taken from the state GIS database and aerial photos.

High Erosion Potential: WAU: 32%, Sub-basin 4: 26%
High Mass Wasting Potential: WAU: 31%, Sub-basin 4: 26%
- 8) *Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?*
☐ **No** ☒ **Yes, describe changes and possible causes: There is evidence from state GIS data and aerial photos that show minor changes to the channels of some streams within the WAU, due possible to mass wasting during natural yearly weather fluctuations.**
- 9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*
☒ **No** ☐ *Yes, explain:* **There should be little effect to water quality. Streams having perennial flow have been excluded from the timber sale area. Road construction, hauling, and ground based harvesting operations may be restricted from November 1 to March 31 and are not permitted during unfavorable weather conditions at any time of the year, minimizing potential impacts from this proposal to water quality.**
- 10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)? Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?*
☒ **No** ☐ *Yes, describe:*
As of July 15, 2004;
Porter Canyon WAU: 3.4 mi/mi²
Porter Canyon Sub-basin 4: 4 mi/mi²
The percentage of roads carrying water is unknown. This information was taken from the state GIS data layer.
- 11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not, **STOP HERE** and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☐ **No** ☒ **Yes, approximate percent of WAU in significant ROS zone. Porter Canyon WAU- 47% in SROS & Snow-dominated zone**
Approximate percent of sub-basin(s): Sub Basin 4- 37% in SROS
- 12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature? 37% of Porter Canyon WAU Sub-basin 4 is within the Significant Rain-On-Snow Zone (SROS). 56% of the SROS zone is DNR managed. Management targets for hydrologic maturity in this Sub-basin are 245 acres. This proposal would leave 314 acres of hydrologically mature forest in the sub-basin. This information based on region GIS data, field verification, and local knowledge of the history of the area (See FP Application/Notification Addendum; DNR Proprietary HCP, WAC Replacement Summary For Aquatic Resources). This information was taken from the Department's WAU report, dated August 2, 2004.*
- It is not known how many private acres in the Sub Basin are hydrologically mature. These figures are based on the latest information available prior to the proposal's activities.**
- 13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐ **No** ☒ **Yes, describe observations:**
Shallow rapid failures and stream bank erosion have occurred in the WAU and sub-basins during peak flow events. These events have been observed in the field as naturally occurring.
- 14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

The removal of timber may contribute additional water volume during peak flows; however this proposal is not expected to greatly add to peak flow.

- 15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒ **No** ☐ *Yes, possible impacts:*

- 16) Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.

The potential for stream flow increases are tempered by design of the proposed sale. Streams having perennial flow have been excluded from the timber sale. Those streams that are non-perennial are not expected to contribute to stream water quality degradation during or after harvest operations. Road construction, haul, and harvesting operations will be restricted during unfavorable precipitation conditions further reducing impact to water quality. Also see B.1.h.

b. Ground Water:

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known. **Road cross drains may increase ground water recharge directly below culvert outlets.**
- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
Minor amounts of oil and other lubricants could be inadvertently spilled as a result of heavy equipment use. No lubricants will be disposed of on site.
- 3) Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?
☒No ☐Yes, describe: **There is no known water resource use of any tributary or associated waters downstream of this proposal.**
 - a) Note protection measures, if any. **N/A**

c. Water Runoff (including storm water):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
Intercepted surface storm water from rain and snow melt, and intercepted ground water from road cut banks will be collected into roadside ditches and discharged onto stable areas of the forest floor, or into natural drainage areas through cross drain culverts and ditches. All discharged water associated with this proposal is ultimately tributary to the Middle Fork Nooksack River. Crowned and rock surfacing on all roads will reduce sediments from entering natural waters.
- 2) Could waste materials enter ground or surface waters? If so, generally describe.
Erosion and mass wasting are unlikely, provided appropriate road construction and harvesting methods are utilized near streams.
 - a) Note protection measures, if any. **Road building, hauling, and ground-based operations may be restricted during the wet season (November 1 to March 31). Timber will be felled away from typed streams. Equipment will operate no closer than 30 feet to the type 5 streams within the harvest units.**

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

All freshly exposed soils associated with road construction and timber harvesting near streams will be grass seeded. Crowning and rock surfacing on all roads will reduce suspended soils from entering natural waters. Catch basins and rock head walls at culvert inlets will be installed according to Forest Practice requirements. See surface water, ground water, and water runoff sections, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.

4. Plants

a. Check or circle types of vegetation found on the site:

- ☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☒cottonwood, ☐western larch, ☒birch, ☐other:
☒evergreen tree: ☒Douglas fir, ☐grand fir, ☐Pacific silver fir, ☐ponderosa pine, ☐lodgepole pine,
☐western hemlock, ☐mountain hemlock, ☐Englemann spruce, ☐Sitka spruce,
☐red cedar, ☐yellow cedar, ☒other: Yew
☒shrubs: ☒huckleberry, ☒salmonberry, ☒salal, ☒other: Ocean Spray
☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒devil's club, ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☒other types of vegetation: Moss, fern and fungi
☐plant communities of concern: None Known

b. What kind and amount of vegetation will be removed or altered? (See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)

- 1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area.
(See landscape/WAU and adjacency maps on the DNR website at: <http://www.dnr.wa.gov> under "SEPA Center.")
A mature second-growth conifer and hardwood stand with an origin of approximately 1934 will be harvested from approximately 98.4 net acres. The volume of the timber to be removed is estimated at 3.4 MMBF. The falling and yarding of the removed timber will disturb associated forest vegetation within the unit. The sale area is surrounded by mature timber.
- 2) Retention tree plan:
Objectives of the green tree retention plan include: creating structural diversity, maintaining down woody debris attributes, protecting large cedar stumps and down cedar logs, preserving and providing microhabitats that are

spatially unique, and minimizing the visual impact of the early seral stage forest. These objectives will be achieved while complying with the requirements of the Forest Resource Plan and HCP.

A total of 867 leave trees have been retained to preserve structural diversity for wildlife habitat. Twenty leave tree clumps, comprising approximately 6.4 acres and containing 659 of the 867 leave trees have been spatially distributed throughout the sale area. These patches average 0.3 acre in size and have an average of 35 trees in each patch. The remainder of the leave trees were scattered throughout the unit. A bald in the northeast portion of the sale has been excluded from the harvest area. Scattered trees include large dbh, wind-firm trees that show structural characteristics that are important to wildlife, such as broken tops, large limbs, forks & crooks; primarily from dominant and co-dominant crown classes. All snags (unless they need to be felled due to L&I safety considerations) and down woody material are to be left.

- c. *List threatened or endangered plant species known to be on or near the site*
DNR's TRAX system indicates no known threatened or endangered plant species.
- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
Wildlife & green trees and RMZ's will preserve existing vegetation. (See 4. b. 2. above)

5. **Animal**

- a. Circle ☒ or ☐ check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☒eagle, ☒songbirds, ☐pigeon, ☒other: barred owl
mammals: ☒deer, ☒bear, ☐elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐talus slopes, ☐caves, ☒cliffs, ☐oak woodlands, ☒balds, ☐mineral springs
Cliffs present in the proposal area are those that were created by road construction cut banks. These artificially generated "cliffs" are not anticipated to be used by wildlife.
- b. List any threatened or endangered species known to be on or near the site (*include federal- and state-listed species*).
DNR's TRAX system indicates no known threatened or endangered animal species.
- c. Is the site part of a migration route? If so, explain.
☒Pacific flyway ☐Other migration route: *Explain if any boxes checked:*
All of Washington State is considered part of the Pacific Flyway. No impacts are anticipated as a result of this proposal.
- d. Proposed measures to preserve or enhance wildlife, if any:

1) *Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.*
Riparian Management Zones and wildlife trees (including damaged, defective, dying, and dead trees, all still standing) will serve as habitat for several bird and wildlife species. The purchaser will not remove down logs, stumps, or snags. A total of 867 green trees with diameters greater than 12 inches dbh, primarily from the 18-24 inch diameter class, will be retained within the harvest area. Douglas-fir, western white pine, and western redcedar will be planted within two years of the timber harvest. The haul route for rock from the S-1100 pit passes through Bear Creek bald eagle winter communal night roost. Hauling on the S-1100 road from December 1 to February 15 is restricted to the period from one hour after sunrise to one hour before sunset. Douglas-fir, western white pine, and western redcedar will be planted at 360 stems/acre within two years of the timber harvest. Also see 4.b.2.

6. **Energy and Natural Resources**

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. **N/A**
- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. **N/A**
- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
N/A

7. **Environmental Health**

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe. **There is minimal hazard due to heavy equipment operations. There is a potential fire hazard if operating in moderate fire weather conditions during the summer until the stand has regenerated and slash has broken down.**
 - 1) Describe special emergency services that might be required. **N/A**
 - 2) Proposed measures to reduce or control environmental health hazards, if any: **None**
- b. Noise
 - 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? **Noise from trucks and logging equipment will be present while operating during daylight hours.**
 - 2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site. **There will be noise during daylight hours on a short-term basis from heavy equipment, log trucks, and chain saws during road construction and logging.**
 - 3) Proposed measures to reduce or control noise impacts, if any: **None**

8. **Land and Shoreline Use**

- a. What is the current use of the site and adjacent properties? (*Site includes the complete proposal, e.g. rock pits and access roads.*) **State and privately owned commercial forestry land surrounds the proposal area.**
- b. Has the site been used for agriculture? If so, describe. **No**
- c. Describe any structures on the site. **None**
- d. Will any structures be demolished? If so, what? **No**
- e. What is the current zoning classification of the site? **Commercial forestry.**
- f. What is the current comprehensive plan designation of the site? **Commercial forestry and resource production.**
- g. If applicable, what is the current shoreline master program designation of the site? **Does not apply.**
- h. Has any part of the site been classified as an “environmentally sensitive” area? If so, specify. **No.**
- i. Approximately how many people would reside or work in the completed project? **Does not apply.**
- j. Approximately how many people would the completed project displace? **Does not apply.**
- k. Proposed measures to avoid or reduce displacement impacts, if any: **Does not apply.**
- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: **The design of this project is consistent with current comprehensive plans and zoning regulations.**

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. **Does not apply.**
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. **Does not apply.**
- c. Proposed measures to reduce or control housing impacts, if any: **Does not apply.**

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed? **Does not apply.**
- b. What views in the immediate vicinity would be altered or obstructed? **The foreground view of the sale area along approximately 0.25 mile of the USFS 38 road will be altered by the removal of a mature second-growth conifer and hardwood stand with an origin of approximately 1934 from approximately 98.4 net acres leaving scattered and clumped leave trees.**
 - 1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*
☐No ☒Yes, viewing location: **US Forest Service road #38**
 - 2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*
☒No ☐Yes, scenic corridor name:
 - 3) *How will this proposal affect any views described in 1) or 2) above?* **The view from USFS 38 road will be altered until the replanted stand ‘greens up’.**
- c. Proposed measures to reduce or control aesthetic impacts, if any: **Use of green trees, RMZ’s, and replanting with Douglas-fir, western white pine, and western redcedar at 360 stems/acre within two years after harvest will all serve to reduce the aesthetic impacts. Also see 4.b.2.**

11. Light and Glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? **Does not apply.**
- b. Could light or glare from the finished project be a safety hazard or interfere with views? **Does not apply.**
- c. What existing off-site sources of light or glare may affect your proposal? **Does not apply.**
- d. Proposed measures to reduce or control light and glare impacts, if any: **None.**

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity? **Hiking, kayaking, berry and mushroom picking, hunting, wildlife viewing**
- b. Would the proposed project displace any existing recreational uses? If so, describe: **No.**
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: **None.**

13. Historic and Cultural Preservation

- a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe. **The Middle Fork of the Nooksack River Drainage is currently under review for listing on the National Historic Sites register and is on the state register for traditional cultural practices.**
- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site. **Areas of current cultural use have been identified near Falls Creek and Clearwater Creek, approximately 0.5 and 1.5 miles respectively, from the proposal. Consultation with Lummi and Nooksack Tribal representatives indicated a site of possible cultural importance within the Township. This site was not necessarily on the Saint Stephen sale parcel.**
- c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)
DNR representatives have provided information and maps to the Lummi and Nooksack tribes regarding this proposal. No landmarks or evidence of historic, archaeological, scientific, or cultural importance were identified. Any cultural resources identified during operations will be protected through development and implementation of a site-specific protection plan(s).

14. Transportation

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any. **US Forest Service Road 38.**
 - 1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?* **No**
- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop? **No**
- c. How many parking spaces would the completed project have? How many would the project eliminate? **N/A**
- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private). **There will be 8,321 feet of new forest road constructed.**
 - 1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*
There will be increased truck traffic for rock hauling during road construction and timber hauling during timber harvest period. An average of 10-15 round trip rock or log truckloads may be moved each day during construction and harvest operation.
- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. **No**
- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur. **None**
- g. Proposed measures to reduce or control transportation impacts, if any:
Safe operation of vehicles will be encouraged.

15. Public Services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe. **There will be an increased potential for forest fires for three to five years after harvest until logging debris breaks down and the unit is once again under vegetation.**
- 3) b. Proposed measures to reduce or control direct impacts on public services, if any. **Restrict access during periods of extreme fire hazard. Operations will cease during periods of extremely low humidity (less than 30%). Slash abatement will be necessary for the portions of the sale within 100 feet of the USFS 38 road. Due to the propensity of rock and/or logs to slide downhill, traffic control must be implemented when falling & yarding slopes facing/above the FS-38 road, and also when blasting occurs in the Saint Stephen pit.**

16. Utilities

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other. **N/A**
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity that might be needed. **None.**